REMARKS

The Office Action mailed on March 23, 2009, has been reviewed and the comments of the Patent and Trademark Office have been considered. Prior to this paper, claims 21-26 and 28-41 were pending. By this paper, Applicants do not cancel or add any claims. Therefore, claims 21-26 and 28-41 are now pending.

Applicants respectfully submit that the present application is in condition for allowance for at least the reasons that follow.

Rejections Under 35 U.S.C. §112, First Paragraph

In the Office Action, claim 21-26 and 28-41 are rejected under 35 U.S.C. §112, first paragraph, as being as failing to comply with the written description requirement. In response, Applicants traverse the rejection of these claims.

In traversing the rejections under the first paragraph of §112, Applicants rely on the original Japanese Patent Application from which the current application ultimately claims priority, a translation of which is provided in Appendix A.

In the paragraph spanning pages 14-15 of the present application, Applicants explicitly state that, with regard to Japanese Patent Application No. 2003-023712, filed on January 31, 2003, (the Japanese Patent Application priority document), "the disclosure . . . is expressly incorporated herein by reference in its entirety." Accordingly, the disclosure of Japanese Patent Application No. 2003-023712 is a part of the disclosed written description of the present application.

Applicants rely on MPEP §201.13(II)(G), entitled, *Incorporation by Reference,* which states that an

> applicant may incorporate by reference the foreign priority application by including, in the U.S. application-as-filed, an explicit statement that such specifically enumerated foreign priority application or applications are "hereby incorporated by reference." The statement must appear in the specification. See 37 CFR 1.57(b) and MPEP § 608.01(p).

In view of the above, Applicants' reliance on the priority Japanese patent application for written description support of the claims is justified under current USPTO procedures.

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Japanese Patent Application No. 2003-023712 contains 17 claims, which were essentially written in what is called in U.S. practice "multiple-dependent formant." That is, many of the dependent claims refer to more than one of the prior dependent claims, which often in-turn refer to more than one of the prior dependent claims, *etc.* Thus, the claimed combinations were, in fact, disclosed in at least Japanese Patent Application No. 2003-023712, from which the current application claims priority, the disclosure of which was expressly incorporated into the present application by reference in its entirety on the filing date of the present application, per the paragraph spanning pages 14-15.

Regarding the specific support, the Office Action identifies four different embodiments that are allegedly not disclosed as variously being in combination with one another. These are:

Embodiment I: Figs. 7-9 having serpentine flow channel;

Embodiment II: Figs. 10 and 11, having interdigitated flow channels; the

Embodiment III: Figs. 13-14, having a plurality of projections differing in height and/or width on a rib; and

Embodiment IV: Figs. 15 and 16 have a continuously changing projection on a rib.

Referring to the translation of the claim set of Japanese Patent Application No. 2003-02371 (a translation of which is found at the beginning of the translation of the application in Appendix A), claim 13 provides support for the combination of Embodiments I, II and IV, and claims 14 and 15 provide support for the combination of Embodiments II, III and IV.[1] At the current time, Applicants do not believe it necessary to proffer support for the combination of Embodiment I and II.

[1] While the claims of Japanese Patent Application No. 2003-023712 do not explicitly recite the term "interdigitated," those claims clearly recite the features of species that makes up an interdigitated flow channels. Indeed, much of the same language of claims 32 and 38 regarding the interdigitated flow paths including a main flow path and a plurality of branch flow paths branched from the main flow path, and the branch flow paths being arranged alternately along a longitudinal direction of the main flow path are found in claims 14 and 15 of the Japanese priority patent application.

Applicants amend the specification, as seen above, to provide textual consistency between the claims of both the present application and the priority Japanese Patent Application on the one hand, and the specification, on the other hand.

Claim Rejections Under 35 U.S.C. §103(a)

In the Office Action, claims 21-26 and 28-31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over JP '024 (JP 2002-280024) when combined with JP-'820 (JP 8-096820). Further, claims 32-41 are rejected as being obvious in view of the combination of JP '820 with Wilson (U.S. Patent No. 5,641,586.) In response, in order to advance prosecution, and without prejudice or disclaimer, Applicants hereby amend the independent claims, as seen above, and respectfully submit that the claims are not obvious for at least the reasons that follow.

Claims 21 and 28 have been amended to recite that the bent gas flow path includes a bend formed by a first straight flow path segment and a second straight flow path segment extending from a downstream end of the first straight flow path segment, and the bent rib includes a part defining the bend. Claims 21 and 28 have further been amended to recite that the plurality of projections for pressing the porous electrode are each located on the part of the bent rib defining the bend, at a position on an extension line of the first straight flow path segment forming the bend, and that the projections have a length substantially equal to a sum of a width of the first straight flow path segment and widths of the ribs defining the first straight flow path segment on both sides thereof, while the projections differ in a height and/or a width thereof.

The devices claimed in claims 21 and 28 address the problem that Applicants have learned that affects serpentine-shaped gas flow paths bundles (and interdigitated gas flow path bundles, as will be discussed below). Specifically, reaction gas is more likely to short-circuit at the bends of the respective gas flow paths in the gas flow path bundle. In an exemplary embodiment of the inventions of claims 21 and 28, which utilize the rib arrangement depicted in Fig. 8 (and recited in those claims), the amount of short-circuited reaction gas is effectively reduced, while the total length of the projections is also reduced.

Claims 32 and 38 have been amended to recite that each branch flow path includes a straight flow path segment having a terminal end at a downstream end thereof, and the rib includes a part defining the terminal end. The claims further recite that the plurality of projections for pressing the porous electrode are each located on the part of the rib defining the terminal end, at a position on an extension line of the straight flow path segment with the terminal end, and that the projections have a length substantially equal to a sum of a width of the first straight flow path segment and widths of the ribs defining the first straight flow path segment on both sides thereof, while the projections differ in a height and/or a width thereof.

The devices claimed in claims 32 and 38 address the problem that Applicants have learned that affects interdigitated flow paths. Specifically, that reaction gas is more likely to short-circuit at the terminal ends of the respective gas flow paths. Thus, in these devices, the amount of short-circuited reaction gas is effectively reduced, while the total length of the projections is also reduced.

None of JP '024, JP '820 and Wilson, even after the proffered combinations, disclose or suggest the features of any claim, at least as amended. The ordinary artisan, who is not an inventor, would not have found it obvious to modify the proffered combinations to arrive at any of the claimed inventions, as the ordinary artisan would not have recognized any need to do so (in contrast to the present inventors). Accordingly, the claims as pending are not obvious for at least this reason, but there is more.

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Even before amendment, a *prima facie* case of obviousness was not met with respect to any of the claims.

With regard to claims 32-41, the Office Action asserts the obviousness of combining Wilson with JP '820 because Wilson teaches that the use of interdigitated flow channels *in his design* reduces pressure drops by an order of magnitude. First, it has not been established that the use of interdigitated flow channels in JP '820 would have been recognized by the ordinary artisan as also reducing pressure drop by such an amount or even near that amount, only that the use of such flow channels *in Wilson* would have done so. By analogy, take a reference teaching advantages of a spark-ignition system. Those advantages would likely not be present if the teachings of that reference were applied to a diesel engine. Indeed, the ordinary artisan likely would not have even tried to apply those teachings to a diesel engine.

Second, even if modification of the device of JP '820 would have resulted in such a pressure drop, it has not been established that the ordinary artisan would have found such a pressure drop desirable in the device of JP '820. By analogy, a reference touting the advantages of pre-stressed concrete would not render obvious the use of the teachings of that reference in an aircraft.

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The Office Action asserts that "the invention as a whole would have been obvious . . . ***because each of these recitations represents a modification that is within the capabilities of a skilled artisan***." (Office Action, page 5, second paragraph.) This is not the standard for obviousness, even after *KSR*.

Applicants rely on MPEP §2143.01(IV), entitled "Mere Statement That The Claimed Invention ***Is Within The Capabilities*** Of One Of Ordinary Skill In The Art ***Is Not Sufficient*** By Itself To Establish *Prima Facie* Obviousness," (emphasis added) which states that a

> statement that modifications of the prior art to meet the claimed invention would have been "'well within the ordinary skill of the art at the time the claimed invention was made'" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). [R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.'" *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396 quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).

The Office Action's basis for rejecting claims 32 and 38 is explicitly forbidden by the MPEP. Indeed, the MPEP explicitly forbids formulating a rejection as is proffered in the Office Action, describing the forbidden rejection using ***the exact same language*** used in the Office Action.

Accordingly, a *prima facie* case of obviousness has not been and cannot be established based on the arguments presented at the top of the second paragraph on page 5.[2]

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Applicants traverse the assertions on page 5 that to "account for the [alleged] flow field pressure drop, it would be obvious to use a graded projection on the rib to vary the electrode contact pressure," and that the "use of a plurality of projections differing in height or width arranged consecutively in a longitudinal direction along the rib . . . would be obvious since this would involve configuring the single graded projection . . . into several discrete projections."

Applicants previously traversed these assertions, arguing that the Office Action was taking official notice. In the "Response to Arguments" section of the Office Action, the Office Action states that "it is noted that the Office is ***not*** relying on 'official notice' in making these assertions; rather, it is believe that these modifications ***would be within the skill of the art***." (Office Action, page 8, middle, emphasis added.) As noted above, MPEP §2143.01(IV), states that the mere statement that the claimed invention ***is within the capabilities*** of one of ordinary skill in the art is not sufficient by itself to establish *prima facie* obviousness. In fact, as noted above, it forbids such a rejection.

Simply put, there is no support for the assertions on page 5 quoted above. If official notice is not being taken, as is stated in the Office Action, the basis for the assertions – "these modifications would be within the skill of the art" – is insufficient to establish a *prima facie* case of obviousness.

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Regarding claims 21 and 28, the Office Action asserts that "the duplication or rearrangement of parts is generally within the skill of the art." (Office Action, paragraph spanning pages 6-7.) Yet, the Office Action identifies no part that is "duplicated" or "rearranged." The difference between the cited references and the present invention is more

[2] Note that this grounds for rejection is used in other locations in the Office Action, such as, for example, at the bottom of page 5.

than just the duplication or rearrangement of parts, if only because none of the cited references teach the specific element that may be duplicated or rearranged. Instead, modifying JP '024 as proffered in the Office Action amounts to ***physically altering*** the parts of JP '024(assuming *arguendo* that nothing more is involved). Physically alternating parts is not the same as "duplication," or "rearrangement." Thus, the rejection of claims 21 and 28 is unfounded.

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In summary, no independent claim now pending is obvious. Accordingly, no dependent claim is obvious, either. Allowance of the application is requested.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Examiner Crepeau is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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APPENDIX A